

issued on May 22, 2002, and a Telephonic Interview conducted with the Examiner on June 12, 2002.

In the Final Official Action, the Examiner maintained the rejections of the claims from the previous Official Action. In response, Applicants traversed the Examiner's rejections under 35 U.S.C. §§ 102(b) and 103(a) for at least the reasons set forth below.

(1) Sutcliffe, Whelpley, and Marshall do not teach maintaining a payload and base structure in a parallel relationship and

(2) Macpherson does not teach a support means which suppresses vertical and horizontal vibrations.

In response to item (1), the Examiner argued that such references teach maintaining a payload and base in a parallel relationship at a given instant as shown in the corresponding figures. Applicants respectfully submitted in a response dated April 30, 2002, that the terms in the claims are read in light of the specification and are given their ordinary meaning unless the Applicants, acting as lexicographer, gives them a different meaning. To maintain something means more than at an instant. "Maintain" means "to continue, carry on, keep up". This ordinary meaning of "maintain" is supported in the specification which describes maintaining the parallel relationship between the base structure and payload over the range of motion of the motion constraint means. The Examiner's interpretation of "maintaining" is therefore contrary to its ordinary meaning, the meaning described in the specification, as well as the meaning understood by those of ordinary skill in the art.

With regard to item (2), Applicants previously argued that component 11 of Macpherson is not a support means and does not provide a vertical and lateral support to suppress transmission of vertical or lateral vibrations. In response, the Examiner argues,

"component 11 supports or serves as a foundation particularly providing vertical support along with links 36, 38, 30." Applicants respectfully submitted in the previous response that component 11 is itself described as a base plate in Macpherson, while it may to some degree support a payload, as a rigid member, it does not and cannot serve to suppress either vertical or lateral vibrations between the base structure and payload. As a rigid base plate, component 11 will serve to transmit any vibrations between the payload and base structure.

In the Advisory Action, the Examiner argues that the instantaneous holding of a payload and base in a parallel orientation is within the meaning of "maintaining" as recited in the claims. With regard to member 11 of McPherson, the Examiner further argues that rigid members are capable of suppressing vibrations.

While Applicants maintain the arguments set forth above, in the interests of advancing prosecution, the claims have been amended to include that (1) the base and payload are maintained in a parallel relationship **throughout their range of motion** and (2) the support means is **deformable along the range of motion**.

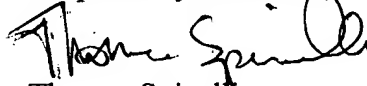
Applicants respectfully submit that neither Macpherson, Sutcliffe, Marshall, nor Whelpley teach or suggest a payload isolation system having a motion constraint means for maintaining a payload and base in a parallel relationship over a range of motion and/or a support means which is deformable over the range of motion to suppress the transmission of vertical and/or lateral vibrations between the payload and base as is recited in independent claims 1, 27, and 36. Applicants therefore, respectfully submit that claims 1, 27, and 36 are allowable and that claims 2-8, 12-21, 23-26, 28-35, 37 and 38, being dependent from claims 1, 27, and 36, are allowable therewith.

With regard to claim 39, the same has been amended to include the features of allowable claim 45 and intervening claim 44. Claims 40, 42-45, and 48 have been canceled and claim 47 has been amended to be consistent with amended claim 39. Thus, Applicants respectfully request withdrawal of the rejection of claim 39 and those claims that depend therefrom.

Attached hereto is a marked-up version of the changes made to the application by the current amendment. The attached page is captioned **"Version with Markings to Show Changes Made."**

In view of the above, early and favorable consideration are respectfully requested.

Respectfully submitted,


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Enclosure (Version with Markings to Show Changes Made)

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claims 40, 42-45, and 48 have been canceled and the claims have been amended as follows:

1. (Amended) A payload isolation system for isolating a payload from a base structure upon which the payload is supported, the payload isolation system comprising:

motion constraint means for maintaining a parallel relationship between the payload and the base structure throughout a range of motion; and

support means being deformable along the range of motion for providing vertical and/or lateral support of the payload relative to the base structure such that the transmission of vertical and/or lateral vibration between the payload and the base structure are suppressed.

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27. (Amended) A motion constraint mechanism comprising:

a first mechanical linkage disposed between a payload and a base structure;

and

at least a second mechanical linkage arranged relative to the first mechanical linkage such that the first and at least second mechanical linkages maintain a parallel relationship between the payload and the base structure throughout a range of motion.

36. (Twice Amended) A method of constraining motion between a payload and a base structure, the method comprising the steps of:

providing a first mechanical linkage disposed between the payload and the base structure;

providing at least a second mechanical linkage disposed between the payload and the base structure; and

arranging the first and at least second mechanical linkages relative to each other such that the first and at least second mechanical linkages maintain a parallel relationship between the payload and the base structure throughout a range of motion.

39. (Twice Amended) A support apparatus for providing vertical and/or lateral support of a payload relative to the base structure such that the transmission of vertical and/or lateral vibration between the payload and the base structure are suppressed, the support apparatus comprising:

a deformable member exhibiting nonlinear elastic characteristics in response to an effective payload weight;

support means for supporting the effective payload weight; and

effective payload adjustment means for adjusting the level of support of the support means in response to a varying effective payload weight[.];

wherein the deformable member comprises a bottom plate fixed to one of the payload or base structure or portions thereof, a top plate movable relative to the bottom plate and fixed to the other of the payload or base structure or portions thereof, the deformable member further comprising a compressible material disposed in a space between the top and bottom plates, the space between the top and bottom plates defining an annular cavity and wherein the compressible material disposed in the space is an elastomeric extruded tubular

element, the elastomeric extruded tubular element having a tubular cavity running therein and being coiled within the space in a helical manner to thereby fill the space.

47. (Amended) The support apparatus of claim 46, wherein the support adjustment means comprises a gas source in communication with the [at least one internal] tubular cavity wherein the feedback means controls the gas pressure level in the [internal] tubular cavity in response to the change in relative distance between the payload and the base structure.